

METHODS AND APPARATUS FOR PRODUCING TRANSMISSION
FAILURE PROTECTED, BRIDGED, AND DISPERSION RESISTANT SIGNALS

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Abstract

Apparatus for creating a communication signal, comprising a modulator adapted to:
modulate a first and a second beam of continuous wave electromagnetic radiation with a source
signal, assemble modulated portions of the first and second beams into a first electromagnetic
10 radiation signal of interposed regular and alternate data bit sequences comprising asserted non
return to zero coded data bits, each of the data bit sequences being interposed by unasserted data
bits, in which mutually adjacent asserted data bits are conjoined, and assemble modulated
portions of the first and second beams into a second electromagnetic radiation signal of
interposed regular and alternate data bar bit sequences comprising asserted non return to zero
15 coded data bar bits representing the unasserted data bits, each of the data bar bit sequences being
interposed by unasserted data bar bits representing the asserted data bits, in which mutually
adjacent asserted data bar bits are conjoined. Such apparatus for creating a communication
signal, further comprising means for modulating the first electromagnetic radiation signal with
the source signal to shift the phase of the alternate data bit sequences; and means for modulating
20 the second electromagnetic radiation signal with the source signal to shift the phase of the
alternate data bar bit sequences. Methods for creating communication signals.